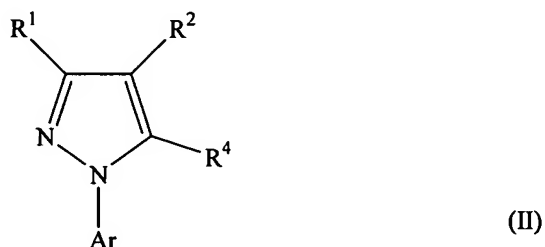


WHAT IS CLAIMED IS

1. A process for the control or elimination of external parasites from an animal, comprising topically applying, at least monthly, to a localized region on the back of the animal, a parasitically effective amount of a direct pour-on or spot-on formulation comprising from 0.05 to 25 % weight/volume, relative to the total solution, of a compound of the formula:



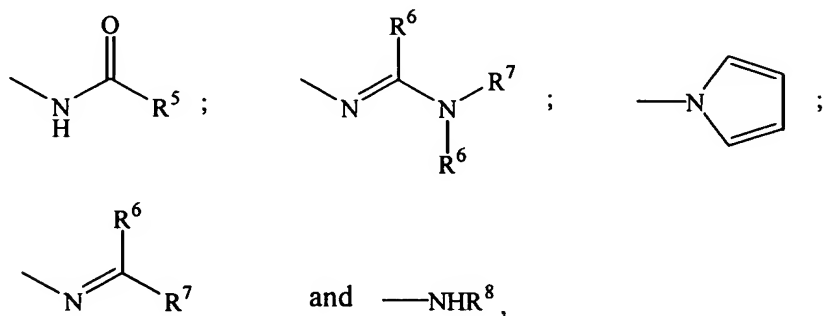
wherein:

R¹ represents H₂N-CS—;

R² represents S(O)_nR, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R³ represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R⁴ represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



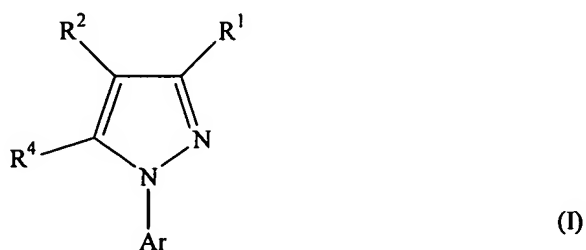
wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,
 R^6 represents hydrogen or alkyl,
 R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,
 R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl, halogenoalkylcarbonyl, or alkoxy carbonyl,
 or a radical NR^9R^{10} , $S(O)_mR^{11}$, $C(O)R^{11}$, $C(O)R^{11}$, OR^{12} , or $-N=C(R^{13})(R^{14})$
 wherein
 R^9 and R^{10} independently represent a hydrogen atom or an alkyl, haloalkyl, $C(O)$ alkyl, alkoxy carbonyl or a $S(O)_rCF_3$ radical; or R^9 and R^{10} may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;
 R^{11} represent an alkyl or haloalkyl radical;
 R^{12} represents an alkyl or haloalkyl radical or a hydrogen atom;
 R^{13} represents an alkyl radical or a hydrogen atom;
 R^{14} represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;
 m, n q, r represents independently of each other an integer equal to 0, 1, or 2;
 Ar represents unsubstituted or substituted phenyl or pyridyl, and
 n represents a number 0, 1 or 2,

wherein the composition comprises from 0.05 to 25% weight/volume of the compound of formula (II), and the compound of formula (II) is applied in a dose between 0.1 and 2 mg/kg animal weight, and

subjecting the formulation to degradation while diffusing therefrom over the animal's body and/or in the sebaceous glands of the animal and subjecting thereby obtain said control or elimination of said external parasites.

2. The process according to claim 1 wherein the degradation is photodegradation.
3. The process according to claim 1 wherein the degradation is thermal degradation.
4. The process according to claim 1, wherein the pour-on or spot-on formulation further comprises a second parasiticide.
5. The process according to claim 4, wherein the second parasiticide is selected from the group consisting of avermectins, milbemycins, IGR compounds, nodulisporic acid, nodulisporic acid derivatives, pyrethroids and formamidines.
6. A process for preparing a compound of the formula



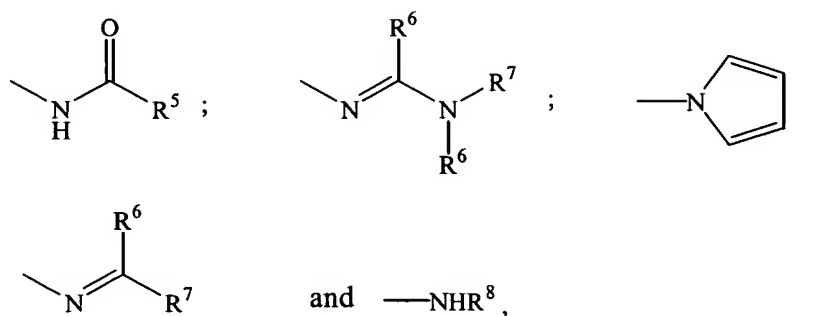
wherein:

R^1 represents $C\equiv N$

R^2 represents $S(O)_nR^3$, 4,5-dicyanoimideazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or halogenalkynyl;

R^4 represents hydrogen, halogen, alkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^6 represents hydrogen or alkyl,

R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl,

halogenoalkylcarbonyl, or alkoxy carbonyl,

or a radical $\text{NR}^9\text{R}^9\text{R}^{10}$, $\text{S(O)}_m\text{R}^{11}$, C(O)R^{11} , C(O)R^{11} , OR^{12} , or $\text{—N=C(R}^{13}\text{)(R}^{14}\text{)}$

wherein

R^9 and R^{10} independently represent a hydrogen atom or an alkyl, haloalkyl,

C(O)alkyl , alkoxy carbonyl or a $\text{S(O)}_r\text{CF}_3$ radical; or R^9 and R^{10} may together

form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;

R^{11} represent an alkyl or haloalkyl radical;

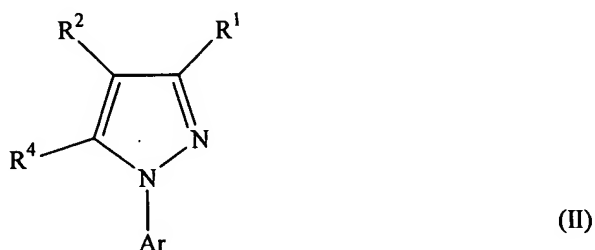
R^{12} represents an alkyl or haloalkyl radical or a hydrogen atom;

R^{13} represents an alkyl radical or a hydrogen atom;

R^{14} represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;

m, n q, r represents, independently of each other, an integer equal to 0, 1, or 2;

which comprises degrading a compound of the formula:



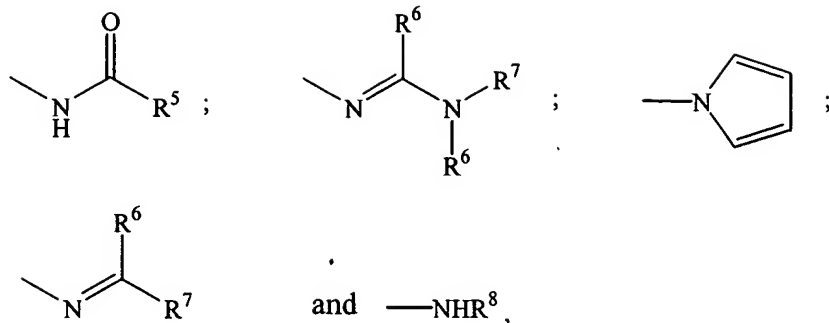
wherein:

R^1 represents H_2N-CS- ;

R^2 represents $S(O)_nR^3$, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R^4 represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^6 represents hydrogen or alkyl,

R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl, halogenoalkylcarbonyl, or alkoxycarbonyl,

or a radical $\text{NR}^9\text{R}^9\text{R}^{10}$, $\text{S(O)}_m\text{R}^{11}$, C(O)R^{11} , C(O)R^{11} , OR^{12} , or $\text{—N=C(R}^{13}\text{)(R}^{14}\text{)}$

wherein

R^9 and R^{10} independently represent a hydrogen atom or an alkyl, haloalkyl, C(O)alkyl , alkyoxycarbonyl or a $\text{S(O)}_t\text{CF}_3$ radical; or R^9 and R^{10} may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;

R^{11} represent an alkyl or haloalkyl radical;

R^{12} represents an alkyl or haloalkyl radical or a hydrogen atom;

R^{13} represents an alkyl radical or a hydrogen atom;

R^{14} represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O- alkyl, S-alkyl, cyano or alkyl;

m, n q, r represents independently of each other an integer equal to 0, 1, or 2;

Ar represents unsubstituted or substituted phenyl or pyridyl, and

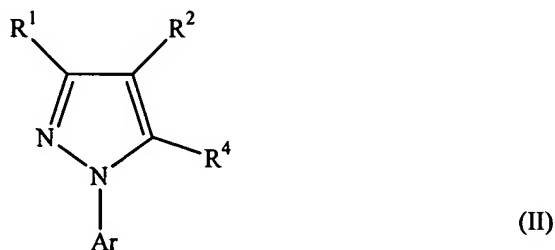
n represents a number 0, 1 or 2,

in the presence of a degradation agent.

7. The process according to claim 6, wherein the degradation agent is fluorescent light, UV light or heat.

8. A chewable veterinary formulation, which does not contain animal products, which comprises:

-effective amount of at least one compound of the formula;



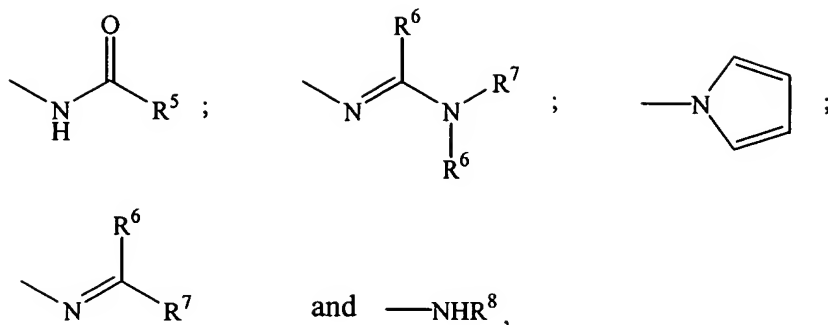
wherein:

R^1 represents H_2N-CS- ;

R^2 represents $S(O)_nR$, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R^4 represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R⁵ represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R⁶ represents hydrogen or alkyl,

R⁷ represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R⁸ represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl, halogenoalkylcarbonyl, or alkoxy carbonyl,

or a radical NR⁹R⁹R¹⁰, S(O)_mR¹¹, C(O)R¹¹, C(O)R¹¹, OR¹², or —N=C(R¹³)(R¹⁴)

wherein

R⁹ and R¹⁰ independently represent a hydrogen atom or an alkyl,

haloalkyl, C(O)alkyl, alkyoxycarbonyl or a S(O)_nCF₃ radical; or R⁹

and R¹⁰ may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;

R¹¹ represent an alkyl or haloalkyl radical;

R¹² represents an alkyl or haloalkyl radical or a hydrogen atom;

R¹³ represents an alkyl radical or a hydrogen atom;

R^{14} represents a phenyl or a heteroaryl group optionally substituted with
 one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;
 m, n q, r represents independently of each other an integer equal to 0, 1, or 2;
 Ar represents unsubstituted or substituted phenyl or pyridyl, and
 n represents a number 0, 1 or 2,
 -at least one filler;
 -at least one disintegrant;
 -at least one non-animal product containing flavor or flavor derived from a non-
 animal source;
 -at least one binder;
 -at least one humectant;
 -at least one granulating solvent; and
 -optionally, at least one antioxidant, at least one pH modifier, at least one
 surfactant, at least one preservative, at least one lubricant or at least one colorant.

9. The chewable veterinary formulation according to claim 8,
 wherein,
 -the filler is selected from the group consisting of soy protein, corn cob, and corn
 gluten meal;
 -the disintegrant is selected from the group consisting of sodium starch glycolate,
 crospovidone, croscarmellose sodium, starch, microcrystalline cellulose, alginic acid, veegum,
 crospovidone, bentonite, and pregelatinized starch;

-the binder is selected from the group consisting of polyvinyl pyrrolidone, povidone, starch, pregelatinized starch, gelatin, methylcellulose, hydroxypropyl cellulose, carboxymethyl cellulose sodium, ethylcellulose, sodium alginate, tragacanth, and acacia;

-the humectant is selected from the group consisting of propylene glycol, glycerin, and polyethylene glycol 400; and

-the granulating solvent is water or an aqueous sorbitol solution.

10. The chewable veterinary formulation according to claim 9, which further comprises an antioxidant and the antioxidant is an alpha tocopherol, ascorbic acid, ascorbyl palmitate, sodium ascorbate, sodium metabisulfate, n-propyl gallate, butylated hydroxy anisole, butylated hydroxy toluene, monothioglycerol or a mixture of any of the foregoing.

11. The chewable veterinary formulation according to claim 10, which further comprises a colorant and the colorant is a dye, an aluminum lake, caramel, colorant based upon iron oxide or a mixture of any of the foregoing.

12. The chewable veterinary formulation according to claim 11, which further comprises a preservative and the preservative is a compound selected from the group consisting of benzalkonium chloride, benzethonium chloride, benzoic acid, benzyl alcohol, bronopol, butylparaben, centrimide, chlorhexidine, chlorobutanol, chlorocresol, cresol, ethylparaben, imidurea, methylparaben, propylparaben, phenol, phenoxyethanol, phenylethyl alcohol, phenylmercuric acetate, phenylmercuric borate, phenylmercuric nitrate, potassium sorbate, sodium benzoate, sodium propionate, sorbic acid, thimerosal, propyl paraben, myristyl gamma-picolinium chloride, paraben methyl, paraben propyl, quaternary ammonium compounds and a mixture of any of the foregoing.

13. The chewable veterinary formulation according to claim 12, which further comprises a surfactant selected from the group consisting of glyceryl monooleate, polyoxyethylene, sorbitan esters, polyvinyl alcohol, sodium lauryl sulfate and poloxomers.

14. The chewable veterinary formulation according to claim 12, which further comprises a lubricant and the lubricant is selected from the group consisting of corn oil, polyethylene glycol, mineral oil, hydrogenated vegetable oil, peanut oil and castor oil.

15. The chewable veterinary formulation, according to claim 8 which comprises:

- an effective amount of a compound of formula (II)
- about 20 to about 60% of a filler selected from the group consisting of soy protein, corn cob, or corn gluten meal;
- about 1 to about 20% of a disintegrant;
- about 0.1 to about 20% of a non-animal product containing flavor or a flavor derived from a non-animal source;

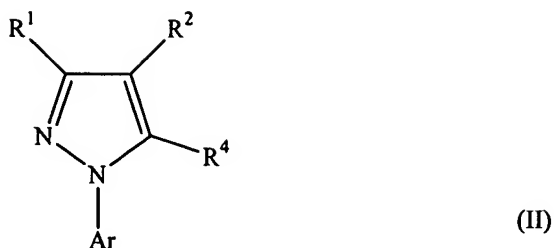
16. The chewable veterinary formulation according to claim 15 wherein the compound of formula II is the thioamide derivative of fipronil.

17. The chewable veterinary formulation according to claim 8, which further comprises a second parasiticide.

18. The chewable veterinary formulation according to claim 17, wherein the second parasiticide is selected from the group consisting of avermectins, milbemycins, IGR compounds, nodulisporic acid, and nodulisporic acid derivatives.

19. A tablet, which does not contain animal products, which comprises

- an effective amount of at least one compound of the formula:



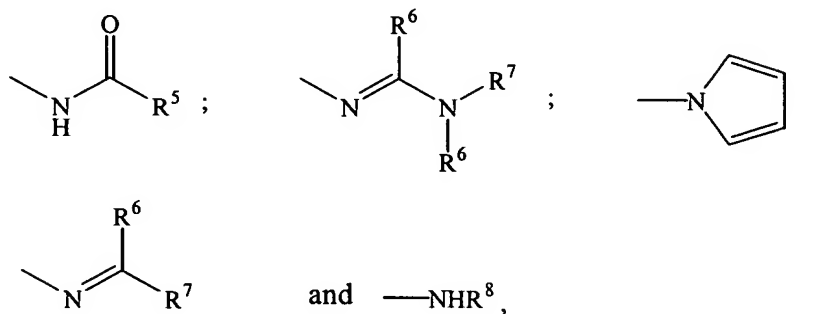
wherein:

R^1 represents H_2N-CS- ;

R^2 represents $S(O)_nR$, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R^4 represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^6 represents hydrogen or alkyl,

R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl, halogenoalkylcarbonyl, or alkoxy carbonyl, or a radical $NR^9R^9R^{10}$, $S(O)_mR^{11}$, $C(O)R^{11}$, $C(O)R^{11}$, OR^{12} , or $-N=C(R^{13})(R^{14})$

wherein

R^9 and R^{10} independently represent a hydrogen atom or an alkyl,

haloalkyl, $C(O)$ alkyl, alkyoxycarbonyl or a $S(O)_rCF_3$ radical; or R^9

and R^{10} may together form a divalent alkenyl radical which may be

interrupted by one or two heteroatoms;

R^{11} represent an alkyl or haloalkyl radical;

R^{12} represents an alkyl or haloalkyl radical or a hydrogen atom;

R^{13} represents an alkyl radical or a hydrogen atom;

R^{14} represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;

m, n q, r represents independently of each other an integer equal to 0, 1, or 2;

Ar represents unsubstituted or substituted phenyl or pyridyl, and

n represents a number 0, 1 or 2,

-at least one filler;

-at least one disintegrant;

-at least one non-animal product containing flavor or flavor derived from a non-animal source;

-at least one binder;

-at least one humectant;

-at least one granulating solvent; and

-optionally, at least one lubricant, at least one flow aid, at least one antioxidant, at least one pH modifier, at least one surfactant, at least one preservative, at least one lubricant or at least one colorant.

20. The tablet according to claim 19, wherein

- the filler is selected from the group consisting of anhydrous lactose, hydrated lactose, spray-dried lactose, crystalline maltose, and a maltodextrin;
- the flow aid is selected from the group consisting of silicone dioxide, silica gel, talc, starch, calcium stearate, magnesium stearate, and aluminum magnesium stearate; and
- the lubricant is selected from the group consisting of magnesium stearate, calcium stearate, stearic acid and waxes.

21. The tablet according to claim 20, wherein

-the disintegrant is selected from the group consisting of sodium starch glycolate, crospovidone, croscarmellose sodium, starch, microcrystalline cellulose, alginic acid, veegum, crospovidone, bentonite, and pregelatinized starch; and

-the binder is selected from the group consisting of polyvinyl pyrrolidone, povidone, starch, pregelatinized starch, gelatin, methylcellulose, hydroxypropyl cellulose, carboxymethyl cellulose sodium, ethylcellulose, sodium alginate, tragacanth, and acacia.

22. The tablet according to claim 21, which further comprises a colorant and the colorant is a dye, an aluminum lake, caramel, colorant based upon iron oxide or a mixture of any of the foregoing.

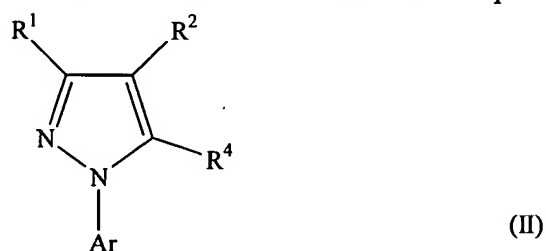
23. The tablet according to claim 19, which further comprises a second parasiticide.

24. The tablet according to claim 23, wherein the second parasiticide is selected from the group consisting of avermectins, milbemycins, IGR compounds, formamidines, pyrethroids, nodulisporic acid, and nodulisporic acid derivatives.

25. The tablet according to claim 20 wherein the compound of formula II is the thioamide derivative of fipronil.

26. A premix which comprises

- an effective amount of at least one compound of the formula



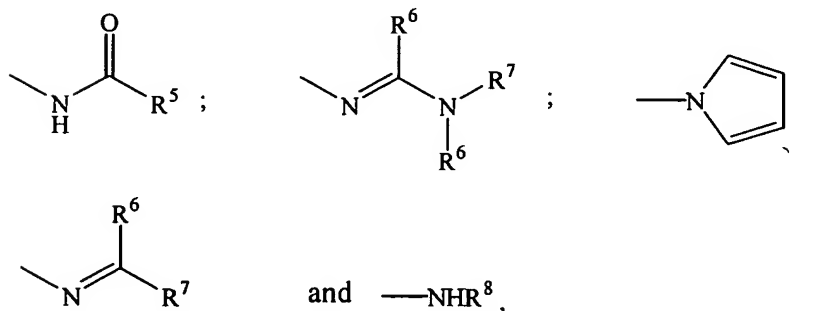
wherein:

R¹ represents H₂N-CS-;

R² represents S(O)_nR, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R³ represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R⁴ represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,
 R^6 represents hydrogen or alkyl,
 R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,
 R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl, halogenoalkylcarbonyl, or alkoxy carbonyl,
 or a radical NR^9R^{10} , $S(O)_mR^{11}$, $C(O)R^{11}$, $C(O)R^{11}$, OR^{12} , or $-N=C(R^{13})(R^{14})$
 wherein
 R^9 and R^{10} independently represent a hydrogen atom or an alkyl, haloalkyl, $C(O)$ alkyl, alkoxy carbonyl or a $S(O)_rCF_3$ radical; or R^9 and R^{10} may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;
 R^{11} represent an alkyl or haloalkyl radical;
 R^{12} represents an alkyl or haloalkyl radical or a hydrogen atom;
 R^{13} represents an alkyl radical or a hydrogen atom;
 R^{14} represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;
 m, n, q, r represents independently of each other an integer equal to 0, 1, or 2;
 Ar represents unsubstituted or substituted phenyl or pyridyl, and
 n represents a number 0, 1 or 2,

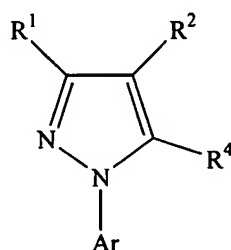
- a pharmaceutically acceptable excipient comprising:

- i) a pharmaceutically acceptable surfactant;
- ii) a pharmaceutically acceptable wax;
- iii) a pharmaceutically acceptable antioxidant;
- iv) a pharmaceutically acceptable carrier vehicle wherein said vehicle is selected from the group consisting of fine corn cobs, corn meal, citrus meal, fermented residues, ground oyster shells, wheat shorts, molasses solubles, bean mill feed, soy grits, crushed limestone and dried grains; and

- optionally a pharmaceutically acceptable pH modifier.

27. The premix according to claim 26 which further comprises a second parasiticide.
28. The premix according to claim 27 wherein the second parasiticide is selected from the group consisting of avermectins, milbemycins, IGR compounds, nodulisporic acid and nodulisporic acid derivatives.
29. A process for the control or elimination of external parasites from an animal which comprises adding the premix according to claim 26 to animal feed.
30. A spray which comprises

-an effective amount of at least one compound of the formula



(II)

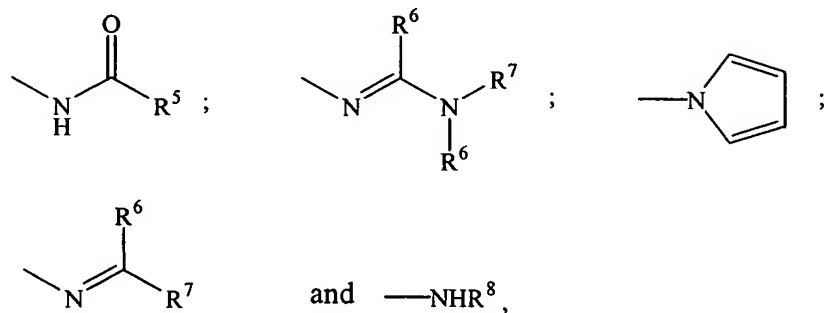
wherein:

R¹ represents H₂N-CS-;

R^2 represents $S(O)_nR$, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R^4 represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^6 represents hydrogen or alkyl,

R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl,

halogenoalkylcarbonyl, or alkoxy carbonyl,

or a radical $\text{NR}^9\text{R}^9\text{R}^{10}$, $\text{S(O)}_m\text{R}^{11}$, C(O)R^{11} , C(O)R^{11} , OR^{12} , or $\text{—N=C(R}^{13}\text{)(R}^{14}\text{)}$

wherein

R^9 and R^{10} independently represent a hydrogen atom or an alkyl,

haloalkyl, C(O)alkyl , alkoxy carbonyl or a $\text{S(O)}_r\text{CF}_3$ radical; or R^9

and R¹⁰ may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;

R¹¹ represent an alkyl or haloalkyl radical;

R¹² represents an alkyl or haloalkyl radical or a hydrogen atom;

R¹³ represents an alkyl radical or a hydrogen atom;

R¹⁴ represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;

m, n q, r represents independently of each other an integer equal to 0, 1, or 2;

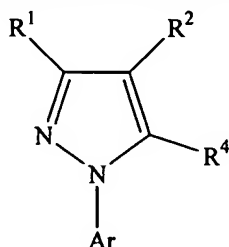
Ar represents unsubstituted or substituted phenyl or pyridyl, and n represents a number 0, 1 or 2,

- a vehicle and,

- optionally a crystallization inhibitor.

31. The spray according to claim 27, which further comprises a second parasiticide.
32. The spray according to claim 28, wherein the second parasiticide is selected from the group consisting of avermectins, milbemycins, IGR compounds, nodulisporic acid, formamidines, pyrethroids, and nodulisporic acid derivatives.
33. Alternatively, the premix A premix which comprises

- an effective amount of at least one compound of the formula



(II)

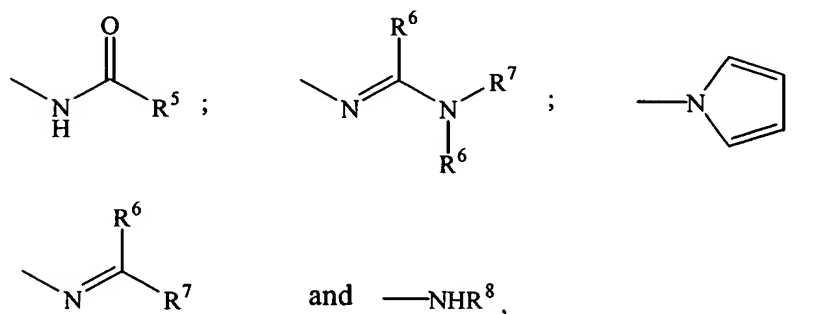
wherein:

R¹ represents H₂N-CS-;

R^2 represents $S(O)_nR$, 4,5-dicyanoimidazol-2-yl or haloalkyl;

R^3 represents alkyl, haloalkyl, haloalkenyl or haloalkynyl;

R^4 represents hydrogen, halogen, alkyl, haloalkyl, amino or a compound selected from the group consisting of



wherein

R^5 represents alkyl, halogenoalkyl, alkoxyalkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^6 represents hydrogen or alkyl,

R^7 represents hydrogen, alkyl or in each case unsubstituted or substituted phenyl or pyridyl,

R^8 represents alkyl, alkenyl, alkynyl, formyl, alkylcarbonyl,

halogenoalkylcarbonyl, or alkoxy carbonyl,

or a radical $NR^9R^9R^{10}$, $S(O)_mR^{11}$, $C(O)R^{11}$, $C(O)R^{11}$, OR^{12} , or $\text{—N=C(R}^{13}\text{)(R}^{14}\text{)}$

wherein

R^9 and R^{10} independently represent a hydrogen atom or an alkyl,

haloalkyl, $C(O)$ alkyl, alkoxy carbonyl or a $S(O)_rCF_3$ radical; or R^9

and R¹⁰ may together form a divalent alkenyl radical which may be interrupted by one or two heteroatoms;

R¹¹ represent an alkyl or haloalkyl radical;

R¹² represents an alkyl or haloalkyl radical or a hydrogen atom;

R¹³ represents an alkyl radical or a hydrogen atom;

R¹⁴ represents a phenyl or a heteroaryl group optionally substituted with one or more halogen atoms or OH, -O-alkyl, S-alkyl, cyano or alkyl;

m, n q, r represents independently of each other an integer equal to 0, 1, or 2;

Ar represents unsubstituted or substituted phenyl or pyridyl, and

n represents a number 0, 1 or 2,

- a pharmaceutically acceptable excipient comprising:

i) a pharmaceutically acceptable wax;

ii) a pharmaceutically acceptable antioxidant;

iii) a pharmaceutically acceptable carrier vehicle wherein said vehicle is selected from the group consisting of fine corn cobs, corn meal, citrus meal, fermented residues, ground oyster shells, wheat shorts, molasses solubles, bean mill feed, soy grits, crushed limestone and dried grains;

- an organic solvent and

- optionally a pharmaceutically acceptable pH modifier.

34. A process for the control or elimination of external parasites from an animal which comprises spraying the animal with an effective amount of a spray according to claim 27.